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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/348,494	07/07/1999	KJELL GUSTAFSSON	040070-244	5321

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EXAMINER

LY, NGHI H

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/348,494

Applicant(s)

GUSTAFSSON ET AL.

Examiner

Nghi H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 and 14-16 is/are allowed.
- 6) ☒ Claim(s) 1,2,6-13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on 11/01/2002, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 6-13, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art the admitted by applicant in figure 3 of the present specification in view of Hashimoto (US 4,823,398).

Regarding to claims 1 and 13, the admitted prior art disclose a mobile station comprises a first antenna, a second antenna, a radio frequency circuit receiving and processing signal from second antenna and a base band processing circuit receiving and combining processed radio frequency signals from the first radio frequency processing circuit and from the second radio frequency processing circuit (see fig.3). The admitted prior art fails to disclose selectively activating and deactivating the second radio frequency processing circuit based on a determination as to whether diversity is appropriate. Hashimoto disclose selectively activating and deactivating a second radio frequency processing circuit (see fig.1 connection between switch 7 and receiver 3) based on a determination as to whether diversity is appropriate (see column 2 lines 49-59). Therefore, it would have been obvious to one of ordinary skill in the art to provide the above teaching of Hashimoto to the admitted prior art so that power consumption is reduced and quality of communication is improved (as suggested by Hashimoto at column 1 lines 45-49).

As to claims 6, 8-12, 17-20, the above combination teaches the signal strength received at antenna (see fig.1 antenna 1) is monitored in order to determine as to whether diversity is appropriate (see column 2 lines 49-59), instead of signal quality of a demodulated signal, or likelihood comparison, or bit error rate, or signal to interference ratio, or number of re-transmission required as claimed. However, using signal quality

of a demodulated signal, or likelihood comparison, or bit error rate, or signal to interference ratio, or number of re-transmission required are known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the above combination as claimed, in order to improve signal quality of a demodulated signal, or bit error rate, or signal to interference ratio, or number of re-transmission.

As to claim 7, the above combination teaches the claimed limitation (see Hashimoto, column 2 lines 49-59).

As to claim 2, the rejection to claim 1 as set forth above is herein incorporated by reference. In addition, the prior art also teaches the first radio frequency processing circuit also transmits signal from the mobile station (see fig. 3 the arrow from the base band processing 340 to RF processing 330).

Allowable Subject Matter

4. Claims 3-5,14-16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3, 4, 14 and 15, the admitted prior art disclose a mobile station comprises a first antenna, a second antenna, a radio frequency circuit receiving and processing signal from second antenna and a base band processing circuit receiving and combining processed radio frequency signals from the first radio frequency processing circuit and from the second radio frequency processing circuit (see fig.3). Hashimoto (US 4,823,398) disclose the control signal to the second radio frequency

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processing circuit to selectively active and deactivate the second radio frequency processing circuit base on a determination as to whether diversity is appropriate (see column 2 lines 49-59). The combination of the above references fail to teach the control signal generated by the base band processing circuit is controlled by a control signal from a base station with which the mobile station is in communication as specified in the claims.

Regarding claims 5 and 16, the admitted prior art disclose a mobile station comprises a first antenna, a first frequency processing circuit receiving and processing signals from the first antenna, a second antenna, a radio frequency circuit receiving and processing signal from second antenna and a base band processing circuit receiving and combining processed radio frequency signals from the first radio frequency processing circuit and from the second radio frequency processing circuit (see fig.3). Hashimoto (US 4,823,398) disclose the control signal to the second radio frequency processing circuit to selectively active and deactivate the second radio frequency processing circuit base on a determination as to whether diversity is appropriate (see column 2 lines 49-59). The combination of the above references fail to teach the mobile station informs a base station of its deactivation of diversity so that the base station will adjust its output power until a sufficient signal quality is achieved in accordance with the non-diversity mode.

Conclusion

5. The prior art made of record and not relied upon is consider pertinent to applicant's disclosure.

a. Mizoguchi (US) teaches Power saving portable radio communication device with diversity reception.

b. Tsukuda (US) teaches portable information terminal device with radio selective-calling receiver.

c. Granata (US) teaches multiple antenna detecting and selecting.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

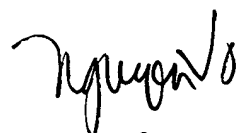
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Nghi Han Ly



December 28, 2002


12/28/02

NGUYEN T. VO
PRIMARY EXAMINER